

I CLAIM:

1. A motor vehicle bumper system installed in a motor vehicle and using flow rate of oil circulating through an oil tank of the motor vehicle to control pressure and an accumulator to absorb energy upon receiving a bump, comprising:
 - 5 a. a bumper unit, said bumper unit comprising a bumper, and parallel hydraulic cylinders controlled to move said bumper between an extended position and a retracted position;
 - b. a pressure-setup pipe unit connected between said hydraulic cylinders and an oil tank of the motor vehicle, oil pressure for operating said hydraulic cylinders to extend out or retract being obtained from said a power steering system connected to said bumper unit, said pressure-set up pipe unit comprising an upper oil chamber connecting pipe connected between the upper oil chambers of said hydraulic cylinders for guiding the oil into said hydraulic cylinders to retract said bumper, a lower oil chamber connecting pipe connected between the lower oil chambers of said hydraulic cylinders for guiding the oil into said hydraulic cylinders to extend out said bumper, a direction control valve adapted to 10 control the connection of said upper oil chamber connecting pipe
- 15
- 20

and said lower oil chamber connecting pipe to said pump and the oil tank of the motor vehicle, a branch pipe extended from said lower oil chamber connecting pipe to the oil tank of the motor vehicle, a decompression valve installed in said branch pipe; and

5 c. a pressure-relief pipe unit, said pressure-relief pipe unit comprising an accumulator, a hydraulic oil pressure sensor, a pipe having one end connected to said lower oil chamber connecting pipe and an opposite end connected to said hydraulic oil pressure sensor through said accumulator, and a relief valve installed in the pipe between said lower oil chamber connecting pipe and said accumulator; and

10 d. wherein when said control switch means are switched on, said decompression valve and said relief valve are closed, said direction control valve is in action, and said pump is started to pump the oil to said hydraulic cylinders to extend out said bumper, and then said decompression valve and said relief valve are opened after said bumper has been extended out; when said 15 control switch means is switched off, said decompression valve and said relief valve are closed, said direction control valve is reversed, enabling said hydraulic cylinders to retract said bumper.

20

2. The motor vehicle bumper system of claim 1, wherein said pressure-setup pipe is connected to a pump, said pump being connected between said hydraulic cylinders and an oil tank and controlled by a control switch means thereby activating said pump to provide pressure for extension and retraction of said hydraulic cylinders through a cut-off valve upon insufficient pressure from the power steering system of said motor vehicle.
5
3. The motor vehicle bumper system of claim 2, wherein said control switch means comprises a reset switch adapted to reset the system after receiving a bump.
10
4. The motor vehicle bumper system of claim 2, wherein said relief valve and said decompression valve respectively change respective oil passage extending through a respective valve block thereof to regulate the flow rate of the oil passing through upon receiving a bump subject to the energy of impact of the bump.
15
5. The motor vehicle bumper system of claim 2, wherein said direction control valve, said decompression valve and said relief valve are mounted on an oil distribution panel.
6. The motor vehicle bumper system of claim 2, wherein said pressure relief pipe unit further comprises an one-way valve connected between
20

said upper oil chamber connecting pipe and said oil tank for enabling the oil to be delivered in one direction from the oil tank of the motor vehicle to said upper oil chamber connecting pipe to the upper oil chambers of said hydraulic cylinders, so as to prevent locking of said hydraulic cylinder upon receiving a bump.

5

7. The motor vehicle bumper system of claim 2, further comprising a timer circuit adapted to automatically cut off power supply from said pump for a predetermined length of time after receiving a bump.